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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/283,233

04/01/1999

TADAKUNI NARABU

SON-1532

9698

7590

09/28/2004

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EXAMINER

WILSON, JACQUELINE B

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/283,233

Applicant(s)

NARABU, TADAKUNI

Examiner

Jacqueline Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-11 and 13 is/are allowed.
- 6) ☒ Claim(s) 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION IV

Response to Arguments

1. Applicant's arguments filed 6/08/04 have been fully considered but they are not persuasive.

Please see discussion below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183, Kenji, and in further view of Kashitani (US 5,757,518).**

Regarding Claim 14, Kashitani et al'183 teaches a mirror body (10), a linear sensor (referred to as linear CCD 12) for taking the image pickup light reflected from the mirror body and subjecting the image pickup light to the photoelectric conversion, and a housing (referred to as a scanner unit 4) in which the mirror body and the linear sensor is accommodated and a slender incidence window (see fig. 1, 9) to pass image pickup light from a subject there through into the housing. Kashitani et al'183 teaches information is output from the linear sensor is sent to the outside (col. 5, lines 36+).

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This indicates that a communication means with an external interface is present so that the information is able to be sent to an external device. Kashitani et al.'183 fails to specifically disclose the mirror body is designed in a polygonal prism. However, Kenji teaches the mirror body is designed in a polygonal prism form (5A) and formed of the mirror faces on all the side peripheral surfaces thereof, and disposed so that the length direction thereof is substantially parallel to the length direction of the sensor (4) and provided so as to be rotatable around the center of a plane (see Constitution) which is substantially perpendicular to the length direction of the mirror body (see fig. 1). By using this polygonal mirror, the optical axis is deflected in a similar manner as the mirror body of Kashitani et al.'183. One having ordinary skill would recognize using Kenji's polygonal mirror will provide an increase in scanning speed compared to a flat mirror body. Therefore, it would have been obvious to one having ordinary skill in the art to use a polygonal mirror in the device of Kashitani et al.'183 as a method of image pickup for providing a higher scan rate.

Neither Kashitani et al.'183 nor Kenji specifically teaches storage means located within the housing for storing moving image pickup information from each mirror face of the mirror body and correcting the timing of the stored image pickup information. Kashitani'518 teaches a memory (fig. 4, elements 52 and 54) located within a housing (referred to as the image scanner) for storing information from a mirror face of the mirror body (3). Kashitani'518 further teaches in prior art devices, combining successive partial images read by the line CCD results in distorted images since the optical path length from the mirror to the reading line varies (col. 1, lines 37+). To correct this

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problem, Kashitani'518 teaches an image converter (fig 4, 20) for converting the partial images depending on the changes in an optical path length (col. 2, lines 41+). A counter (21) is used for counting a main scanning cycle producing a cycle count each time a partial image signal is supplied from the image sensor (col. 4, lines 63+), and a conversion table is used to generate conversion coefficients with respect to the cycle count from the counter (col. 5, lines 1+). This method corrects the timing of the stored images such that a distorted image is not generated. Therefore, it would have been obvious to one having ordinary skill in the art include a storage means and correcting the timing of the stored image pickup information.

Allowable Subject Matter

4. Claims 1, 3-11, and 13 are allowed.

The prior art neither teaches nor fairly suggests an image input device including: a mirror body which is designed in a polygonal prism form, a linear sensor, a housing in which the mirror body and the linear sensor are accommodated and a slender incidence window for passing the image pickup light there through, as claimed in Claim 1, and support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, **the support legs being retractably provided in the housing.**

The prior art neither teaches nor fairly suggests an image input device including a housing having a slender incidence window to pass image pickup light from a subject therethrough into the housing, a mirror body with has mirror faces for reflecting the

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image pickup light from the incidence window and rotatably or swingably provided in the housing, a linear sensor which is disposed in the housing and takes the image pickup light reflected from the mirror body to subject the image pickup light to photoelectric conversion, a plurality of illuminators that are provided in the housing, wherein the illuminators are successively turned on during one scan period to light up the subject, and an external interface located within the housing through which image pickup information is transmitted to the outside.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Wilson whose telephone number is (703) 308-5080. The examiner can normally be reached on 8:30am-5:00pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JBW
09/15/04



NGOC-YEN VU
PRIMARY EXAMINER